

for the masses of ivory discovered in the tooth socket of the elephants.

A few male Indian elephants have a single tusk only. This may be the result of injury received after the development of the tusk or may be a character developed from birth. Selous remarks that single-tusked females are not uncommon in Africa but males in this condition are rare. Again the growth of both tusks may be arrested completely in the male of the Indian elephant or they may be poorly developed differing slightly in size from the female. Mr. Morris's discovery appears to indicate that the suppression of one of the tusks in single-tusked elephants may be due to irregularities in the development of the tooth pulp from injury or other causes. Investigation would prove whether the same characters are to be found in tuskless male elephants. EDs.]

XIII.—BIRDS EATING BUTTERFLIES.

I note in vol. xxxii, No. 2, Miscellaneous Note XIV, some correspondence in regard to 'Birds eating Butterflies'.

This is a most interesting subject and unfortunately I was not collecting data at the time when daily I watched a pair of *Motacilla aguimp* (replaces *M. vidua*)—the African Pied Wagtail—consuming dozens of butterflies. What I do remember is the fact that members of the *Pierines* were unmolested. I also noted a pair of *Motacilla cinerea* catching and eating butterflies in the same locality, in a damp place near a small stream, where the insects came to obtain moisture.

I have also seen certain flycatchers and other species chasing butterflies occasionally but have no detailed records.

These observations were made in the Trans-Nzoia district of Kenya Colony, about 40 miles east of Mt. Elgon, and altitude 6,300'.

C. R. S. PITMAN,

ENTEBBE, UGANDA,
January 12, 1928.

Game Warden,
Uganda Protectorate.

XIV.—THE SPEED OF THE INDIAN PIED KINGFISHER. (*CERYLE RUDIS LEUCOMELANURA*)

While motoring down the Sirhind Canal yesterday I had a very good opportunity of testing the speed of an Indian Pied Kingfisher.

One frequently comes across these birds flying down or up a canal, but the distance of their flight is usually short and seldom exceeds half a mile or so, but on this occasion I was able to time one for just over 3 miles. The bird passed us while we were doing about 25 miles per hour and I accelerated and caught it up. I found that with my speedometer at 30 m.p.h. it gained on me, whereas I began to gain on it at 32. We crossed two bridges on the way, the bird going under them and I having to slow up on account of people and animals coming across, and here the bird got a considerable start but I soon caught it up and kept it on my

left front, so that I could gauge exactly when I gained or lost. It kept a steady course right over the centre of the canal and never changed to right or left, until it suddenly swerved, just after we had completed three miles and sat down on the far bank, near some holes in one of which it probably intends to build when the time comes. It appeared to be moving at just about its normal speed, and if this is so, the normal speed of the species is 31 miles per hour.

DHARMSALA CANTT,
March 4, 1928.

C. H. DONALD.

[Modern devices such as the motor car and the aeroplane are helping us increasingly to dispel the very hazy and fallacious notions that have long been entertained in regard to the velocity at which birds and ground animals travel, and much interesting information has already accumulated through their agency.

During the war, pilots of the Royal Air Force were enabled to make a great many observations by means of the speed indicators of their machines while keeping level with flying birds. Among a host of interesting facts collected are two in relation to White Storks (*Ciconia alba*) and Mallard (*Anas platyrhynchos*) encountered migrating, the former flying at 48 m.p.h. and the latter at 50.

A comparison of the actual figures in these and other cases readily shows how erroneous were our former notions (chiefly based on extremely insecure premises) as regards the velocity attained by flying birds, especially when migrating. For example, the tiny Bluethroat (*Luscinia svecica*) was credited with a sustained speed of over 200 m. p. h. and the American Golden Plover (*Charadrius dominicus*) with nearly 250!

Apart from the actual speed recorded for the kingfisher by Mr. Donald, his note is extremely interesting in the fact that the velocity of a flying bird in this case was ascertained by means of a car. The circumstances which enabled this were certainly exceptional and not such as are likely to be often repeated.

For ground animals, however, in suitable country the car and its speedometer have supplied valuable information and among other recent interesting records obtained in this way, is that of the Giraffe which, according to Marius Maxwell (*Stalking Big Game with a Camera in Equatorial Africa*) when hard pressed will keep up a speed of 28-30 m. p. h. for a considerable time.

Major F. H. Mosse (*J.B.N.H.S.*, xxix, p. 274) found that for a short time at any rate a Black-buck could without difficulty maintain a speed equal to the best his Ford Car could achieve, i.e., 35 to 36 m. p. h. In one case a young buck fairly ran away from his car travelling at this pace, and he estimates that even at the end of a hot chase lasting 8 minutes, the animal must have been doing not less than 38 m. p. h. He mentions an instance of a buck being shot running broadside on and as fast as a car with the speedometer showing 42 m. p. h. Major Mosse was further able to ascertain by the same means that the Wild Ass (*Equus hemionus*) of Cutch could attain and keep up without difficulty a speed of 26 m. p. h. EDS.]